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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,556	08/28/2001	Hyun-Don Oh	SEC.836	3479

7590

02/24/2003

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EXAMINER

GEYER, SCOTT B

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 02/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,556

Applicant(s)

OH ET AL.

Examiner

Scott B. Geyer

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 3 and 8-12 is/are allowed.
- 6) ☒ Claim(s) 4-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant has cancelled claim 2. Claims 1 and 3-12 are pending in the instant application.

Drawings

2. The examiner has considered the applicant's reply concerning the drawing objections made in the previous office action (paper no. 3). The drawings as submitted on August 28, 2001 are acceptable.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of Ueda (6,399,518 B1).

As to **claim 4**, the AAPA teach first and second semiconductor processing units wherein one of the processing units, specifically the processing unit which performs in-line photolithography, produces a deteriorating gas as a by-product of its operation (see specification page 3, 1st through 4th paragraphs and page 4, first paragraph). As to the language of claim 1 which recites "wherein the first semiconductor process unit is installed at a first position and the second semiconductor process unit is installed at second position", the applicant should note that this is merely a matter of design choice. The prior art does teach two process units used in conjunction in a semiconductor

manufacturing environment – it is inherent from the prior art of two process units that one unit would be at a one position and a second unit at a second position in the manufacturing environment. As to claim 1 which recites that the “clean air flows downward over the first and second semiconductor process units to carry the process deteriorating gas away from the second process unit”, the AAPA does not explicitly teach this limitation. However, Ueda teach a resist coating and developing processing apparatus which includes flow of air down over the apparatus, as is clearly shown in figure 4 (see also column 2, line 15 to column 4, line 58). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the device of AAPA with a flow of air as taught by Ueda so as to provide a means to carry away impurities from the treated semiconductor wafers, eliminate particulates, reduce humidity and reduce unnecessary operational heat from the machine.

As to **claim 5**, the applicant’s prior art teach a processing unit which comprises an adhesion unit for improving the adhesion between the wafer and the photo-resist and a processing unit which is a bake unit, in the specification on page 3, 3rd full paragraph.

As to **claim 6**, the applicant’s prior art teach a process deteriorating gas of ammonia in the specification on page 4, 1st paragraph.

As to **claim 7**, Ueda teach a plurality of processing stations within the system depicted in figure 4, and the plurality of processing stations within the system are clearly arranged at different heights.

Allowable Subject Matter

5. Claims 1, 3 and 8-12 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter: claims 8-12 are allowable for reasons as stated in the previous office action (paper no. 3). The prior art of record and to the examiner's knowledge does not teach or render obvious, at least to the skilled artisan, the instant invention regarding the positional requirements of the adhesion unit and the bake unit as recited by claim 1, and with respect to the flow of clean air over the two processing units to carry away a process deteriorating gas. Claim 3 is dependent upon claim 1.

Response to Arguments

7. Applicant's arguments with respect to claims 4-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott B. Geyer whose telephone number is (703) 306-5866. The examiner can normally be reached on weekdays, between 10:00am - 6:30pm. The examiner may also be reached via e-mail: scott.geyer@uspto.gov

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

S.B.G.

S.B.G.
February 11, 2003


KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800